a.

2013 Rodemacher Lake (CLECO Lake) Vegetation Control Plan

LDWF, Inland Fisheries

Owned by CLECO Power Company
Located in Rapides Parish

1. Waterbody type – man-made impoundment.
2. Age and condition of control structure – Completed in 1974
   It is a gated concrete circular-shape spillway with a discharge channel. The spillway has one steel leaf that can be removed for partial drawdown of the lake. The overall condition of the dam is satisfactory. There were no immediate deficiencies found by the inspection team. Pictures are located in Appendix III.
3. Water level (MSL)- 100 MSL
4. Surface area at pool stage – 3,070 acres
5. Average depth – 9' Average; 25' Max
6. Watershed ratio – 7.1 : 1
7. Drawdown potential of structure – Unknown
8. Waterbody Board or Lake Commission – Owned by Central Louisiana Electric Company (CLECO)
9. a. Creation / Nomination- The lake was created to provide cooling water for the power company. The Louisiana Department of Wildlife and Fisheries (LDWF) provides assistance with lake management. In return, the company allows public access to the lake for recreational purposes.
   b. Primary contact information- Central Louisiana Electric Company (CLECO)
   P.O. Box 5000
   Pineville, La. 71361-5000
   c. Procedure for spillway openings – Drawdowns are at the discretion of the lake owner – Central Louisiana Electric Company

   No drawdowns have been conducted to date.

   What significant stakeholders use the lake?
   The impoundment serves as a cooling reservoir for the CLECO Boyce Power Plant. See Appendix II for details.
   The lake is privately owned but the general public is allowed to fish recreationally.

   What are their needs and concerns? What is the history of aquatic vegetation complaints?
   There have been no recent vegetation complaints.
   The primary need of the impoundment is unrestricted water flow into the CLECO power plant for cooling purposes. That flow was compromised when hydrilla became established. By 1992, almost 50 % of the lake was infested causing significant problems at the water intake structure of the plant.

   Have there been any controversial issues on the lake?

   1. CLECO was granted a TGC permit in 1993 and stocked 15,000 TGC. A 1994 summer vegetation survey indicated an 8.5 % increase in hydrilla, so an additional 8,000 TGC were stocked. In 1995 an additional 9,250 TGC were stocked. A total

of 10.5 TGC per surface acre was stocked between 1993 and 1995. By the spring of 1997, all submergent vegetation had been eradicated.

2. Since the mid-2000's turbidity has been an issue. Several factors have likely combined to cause the turbidity problem. These include the lack of submergent vegetation, forestry practices in the watershed, and continuous water circulation by the power company.

Aquatic Vegetation Status:

Since 1997, there have been no aquatic vegetation problems.
As of August 2011, there was no submergent vegetation in the lake. Some parts of the lake had a fringe of alligator weed along the shoreline. This comprised less than 20 acres total coverage. A small remnant population of water hyacinth can be found in the lake. This has encompassed less than 5 acres for the past several years. Approximately 40 acres of white water lily were found in shallow cove areas on the east side of the lake. The alligator weed and water lily provide beneficial cover for fish and protection from shoreline erosion.

No vegetation problems are expected in 2013. Vegetation species or acreage has not changed in several years and is expected to be similar to those listed above. No vegetation survey was conducted in 2012 by department personnel however CLECO Environmental Specialists conduct quarterly lake surveys that include vegetation assessments.

Limitations:

Factors that may limit the effectiveness of chemical, mechanical, or biological control methods for the aquatic plant problems found in the waterbody:

- Turbidity has been a serious problem for the past several years.

Regulatory or public factors that may limit the ability of LDWF to control aquatic plant problems in the waterbody:

- Rodemacher Lake is not a public waterbody and is owned by CLECO Power Company and the use of drawdowns is not an option.
- Located in a 2,4,-D waiver area.

Past Control Measures:

Hydrilla, an exotic plant to Louisiana, became established in the impoundment in 1989. By the summer of 1992 the submersed vegetation had spread to almost 50% of the lake and began to cause access problems at the water intake of the power plant. A permit for the introduction of triploid grass carp (TGC) in spring 1993 was granted to CLECO in an effort to control the vegetation. The lake was stocked with 15,000 TGC (12 inch fish) in March 1993. A supplemental stocking of 8,000 TGC was made in November 1994 after a vegetation survey that summer indicated an 8.5% increase in hydrilla. In October 1995 an additional stocking of 9,250 TGC was made in the impoundment for a total of 10.5 fish per surface acre. In the spring of 1997, hydrilla and all native submerged plants appeared to have been eradicated from the lake.

Aquatic spraying has been limited. The only foliar applications were conducted in 2009. This was done at the request of CLECO due to a concern about the presence of common salvinia. The main concern was the possibility that the salvinia found in the lake could be giant salvinia. CLECO personnel were aware of the serious problems caused by giant salvinia in other lakes. LDWF spray personnel applied herbicide that was purchased by CLECO. Only a small amount of common salvinia was found and the total acreage was less than 10 acres.
No spraying was conducted in 2012.

Complete spray history is located below:

2009	Vegetation/Acres Treated
Alligator Weed	1.3
Common Salvinia	7.0
Water Hyacinth	68.3

Standard Herbicides and Application Rates:

Glyphosate (Aquamaster, Aquastar, etc.): Used at a rate of 0.75 gallons per acre to treat alligator weed, water hyacinth and common salvinia during the active growing period.

Diquat (Reward, Knockout): Used at a rate of 0.75 gallons per acre to treat alligator weed, water hyacinth, and common salvinia during the slower growing period or winter months.

Surfactant is added at a rate of 1:4 (surfactant: herbicide) for all herbicides.

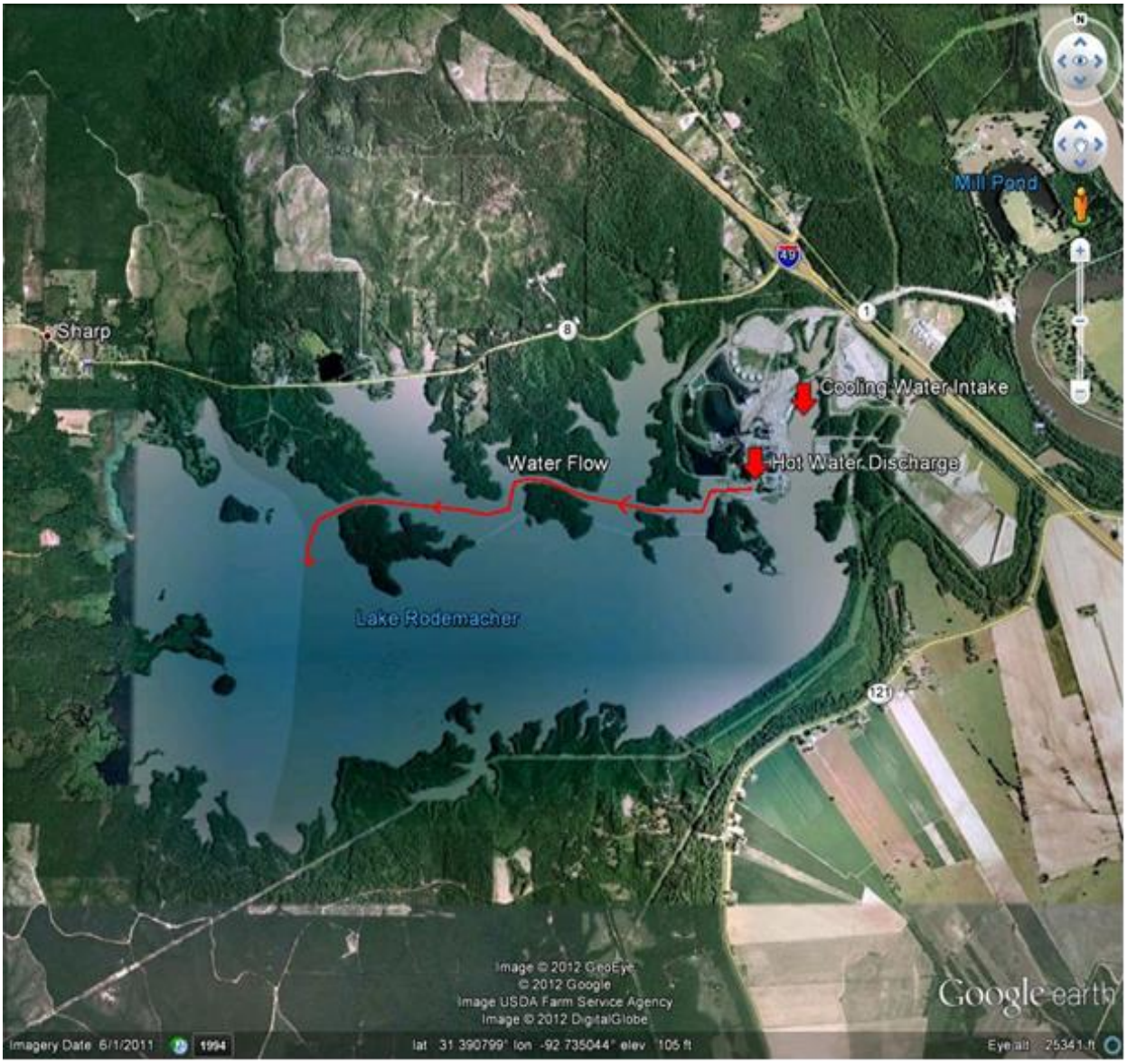
Recommendations

Annual monitoring for the growth of aquatic vegetation in July or August of 2013 will be conducted. CLECO personnel will conduct quarterly lake surveys that include vegetation assessments and will notify LDWF if problems are observed (per personnel communication with Sam Wise, Environmental Specialist for CLECO Power Company (Boyce Location)).

Foliar herbicide treatments, if required, will be applied with the herbicides and rates listed above. If salvinia control is needed, a mixture of glyphosate (0.75 gal/acre) and diquat (0.25 gal/acre) with Aqua King Plus (0.25 gal/acre) and Thoroughbred surfactants (8oz/acre) will be used from April 1 to October 31. Outside of that time frame, the diquat and surfactant application listed above will be used.

Appendix I . Map of Rodemacher Lake

Appendix II – Map of Rodemacher Lake cooling water flow



Appendix III Rodemacher Lake water control structure

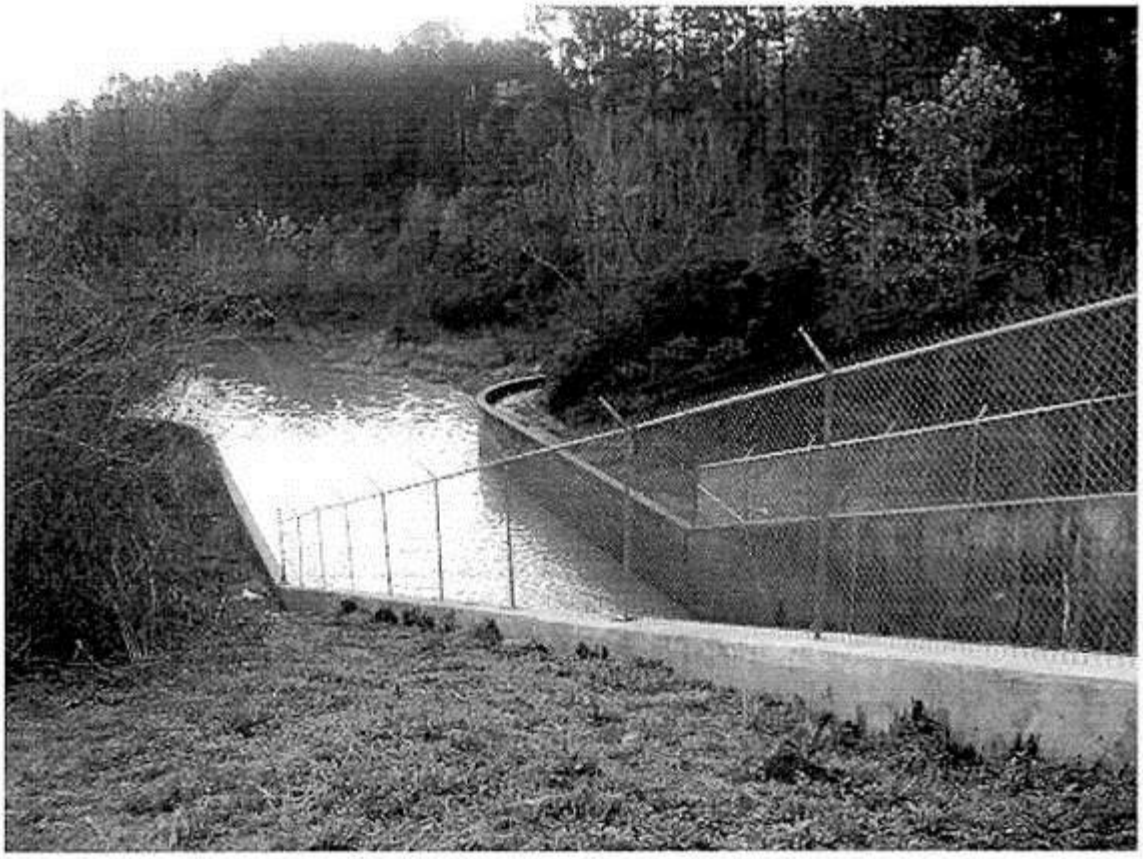


Photo No. 9: View of the discharge channel.

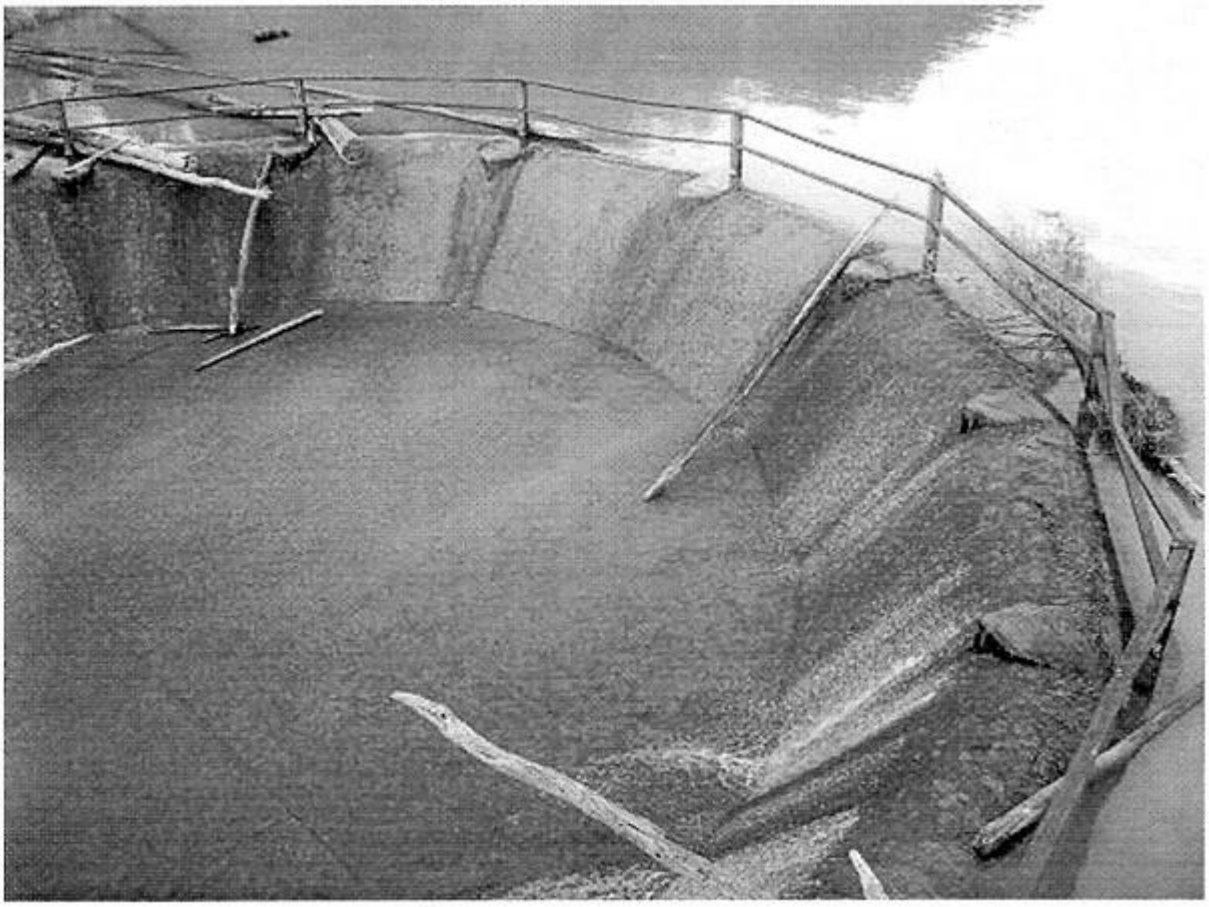
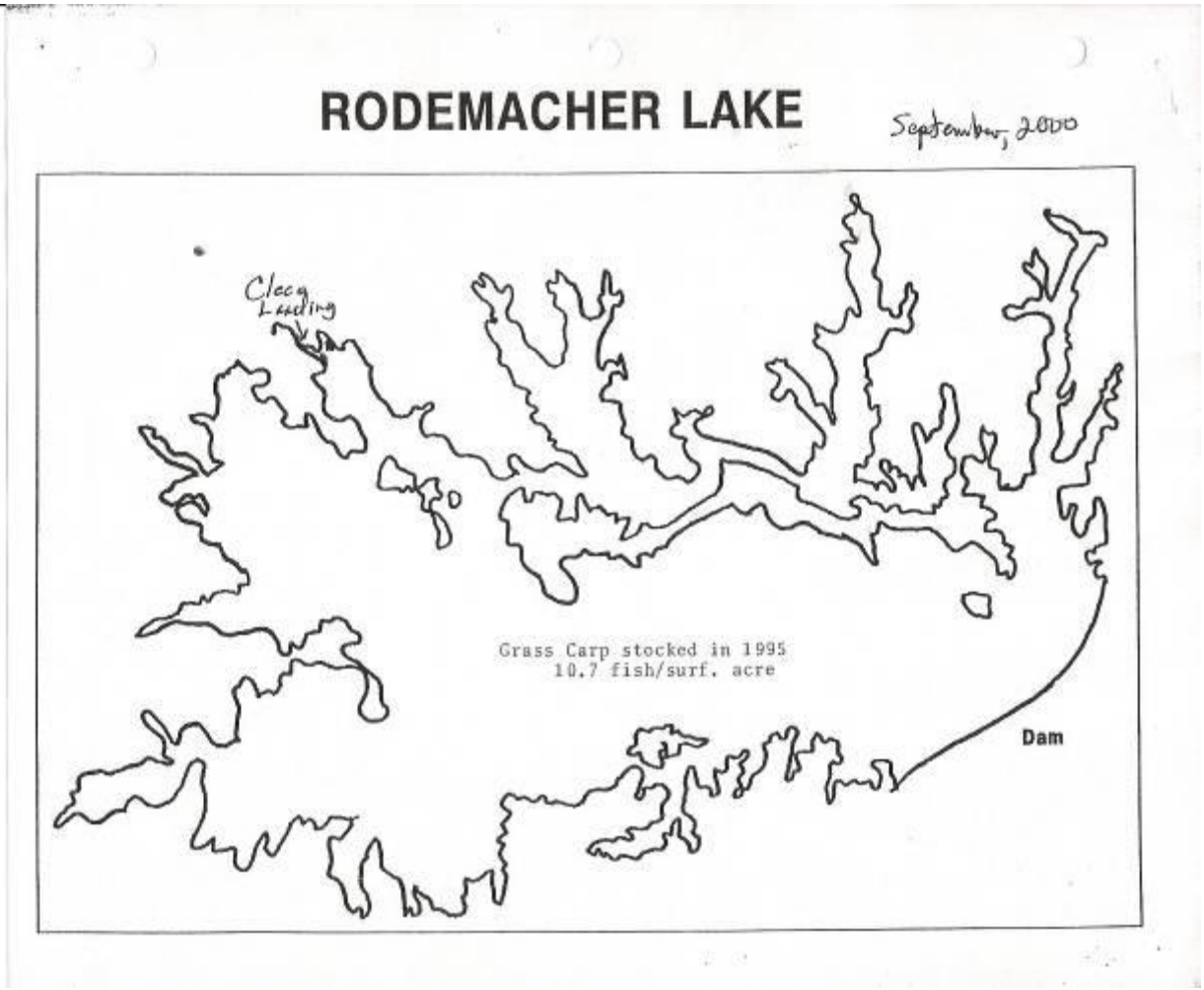


Photo No. 6: View of the concrete gated principal spillway.

Type Map Rodemacher Lake 2000



RODEMACHER LAKE (Cleco Lake)
AQUATIC PLANT SURVEY September 27, 2000

Rodemacher Lake was surveyed September 21, 2000 for the purpose of type mapping the aquatic plant community. We traveled the main body of the lake and all major arms in an effort to locate weed infestations.

Approximately 25 drag samples were taken at random in various water depths to find submerged aquatic plants. We recovered no submerged aquatic vegetation. The entire main body of the lake was without vascular aquatic plants in all classifications; i.e., submergents, emergents, and marginals. The only exception to this was found near Cleco Landing. In that location, a very small infestation of American lotus was surviving in water less than 12 inches deep.

By November 1995, they had stocked a total of 32,250 grass carp in Rodemacher. The lake is approximately 3000 acres in size. The average stocking rate was 10.75 fish per surface acre. Grass carp have been successul in controlling vascular aquatic plants in Rodemacher Lake. A stocking rate of 10.75 fish/surface acre has resulted in complete removal of vascular aquatic plants within four years. No type map could be produced because of insufficient data.